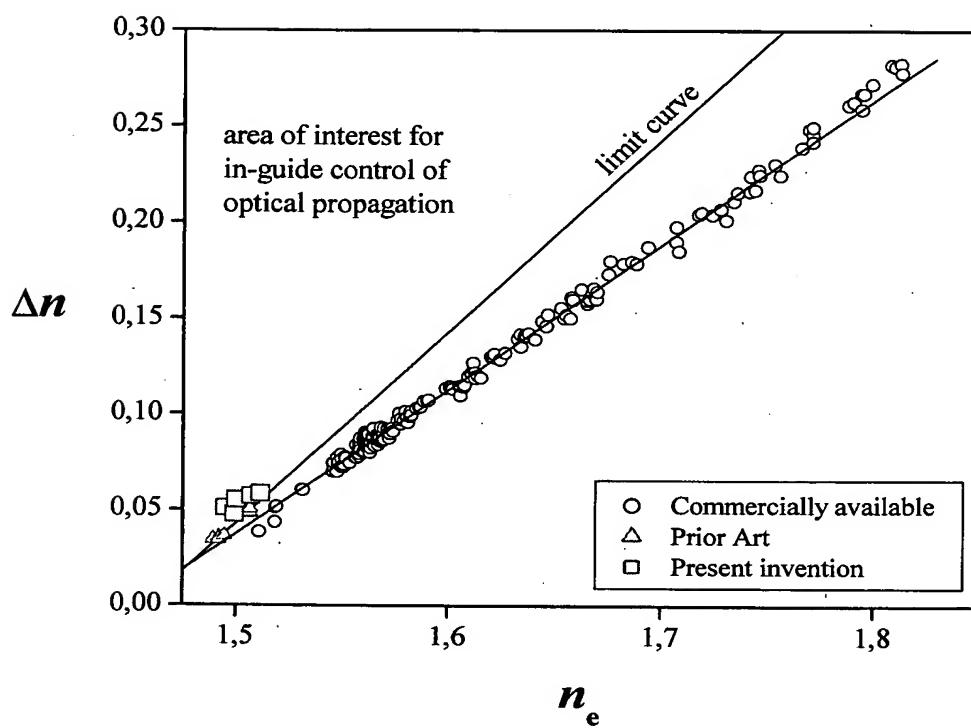


**FIG. 1**  
PRIOR ART



**FIG. 2**

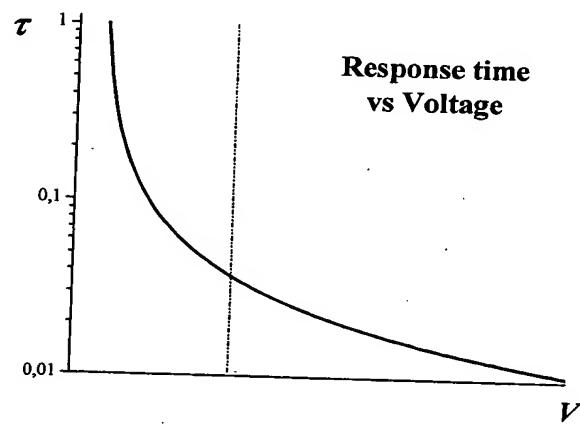
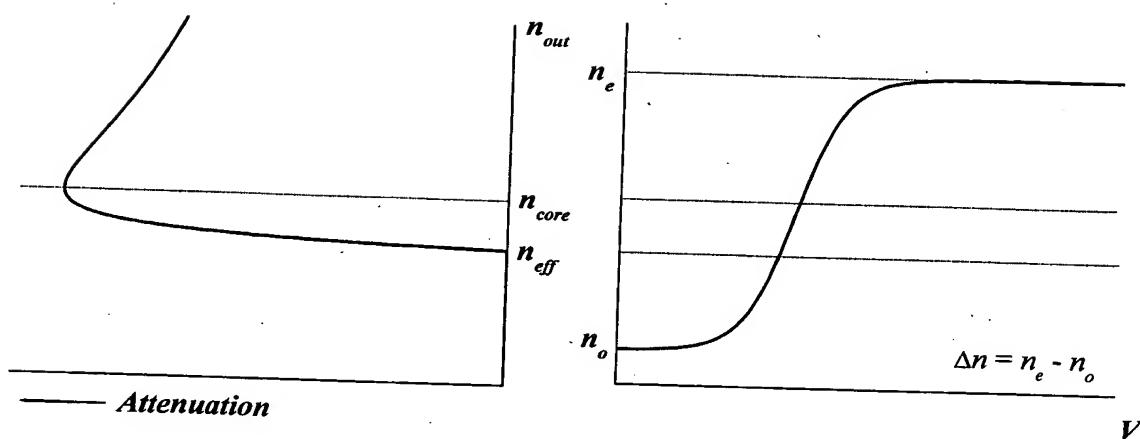


FIG. 3

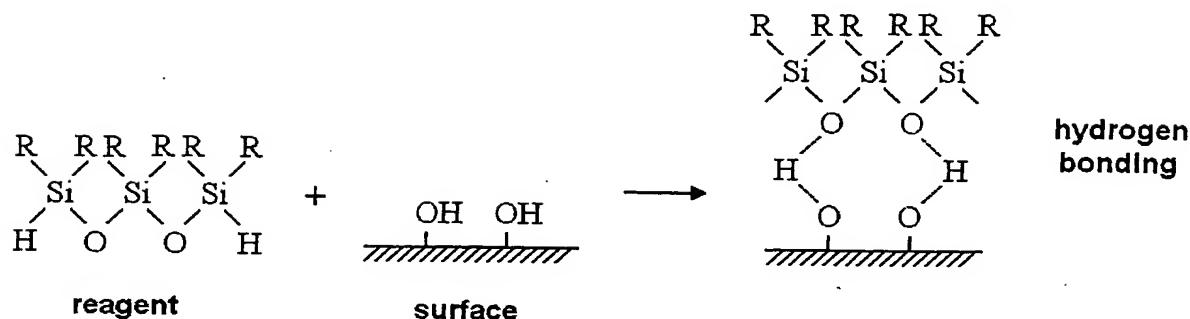


FIG. 4a

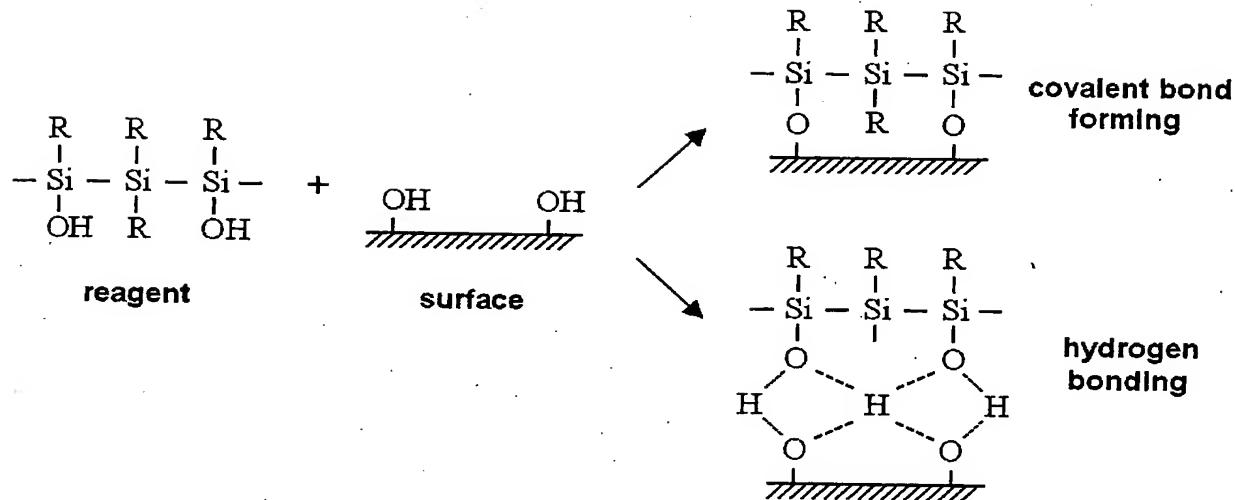
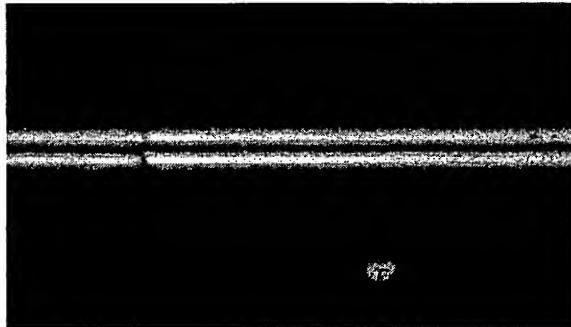
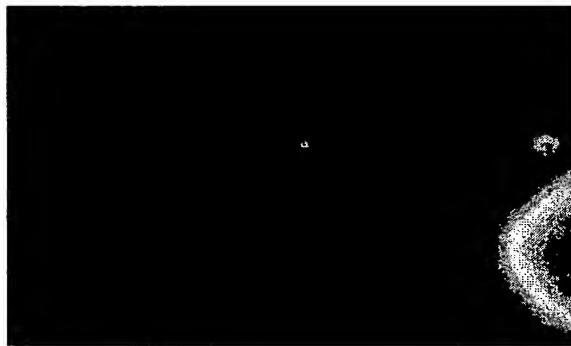


FIG. 4b



**FIG. 5a**

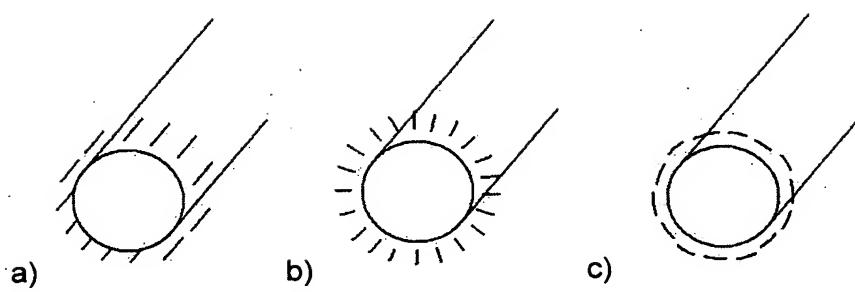


**FIG. 5b**



**FIG. 5c**

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**FIG. 6**

**F I G. 7**

Examples of nematic liquid crystal types

Type	Example
Cyclohexyl carboxylic acid (CHCA)	$R_1-\text{Cyclohexyl}-\text{COOH}$
Bicyclohexyl (CCH)	$R_1-\text{Bicyclohexyl}-R_2$
Phenyl cyclohexyl (PCH)	$R_1-\text{Cyclohexyl}-\text{Phenyl}-R_2$
Biphenyl (B)	$R_1-\text{Biphenyl}-R_2$
Biphenyl cyclohexyl (BCH)	$R_1-\text{Biphenyl}-\text{Cyclohexyl}-R_2$
Terphenyl (T)	$R_1-\text{Terphenyl}-R_2$
Ester (ME)	$R_1-\text{Phenyl}-\text{COO}-\text{Phenyl}-R_2$
Phenyl cyclohexyl carboxylate (D)	$R_1-\text{Cyclohexyl}-\text{COO}-\text{Phenyl}-R_2$
Bicyclohexyl ester cyclohexyl (CH)	$R_1-\text{Bicyclohexyl}-\text{COO}-\text{Cyclohexyl}-R_2$

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Diester	$R_1 - \text{C}_6\text{H}_4 - \text{COO} - \text{C}_6\text{H}_4 - \text{COO} - \text{C}_6\text{H}_4 - R_2$
Schiff	$R_1 - \text{C}_6\text{H}_4 - \text{CH}=\text{N} - \text{C}_6\text{H}_4 - R_2$
Cyclohexyl cyclohexanoate	$R_1 - \text{C}_6\text{H}_{11} - \text{COO} - \text{C}_6\text{H}_{11} - R_2$
Biphenyl ester	$R_1 - \text{C}_6\text{H}_4 - \text{C}_6\text{H}_4 - \text{COO} - \text{C}_6\text{H}_4 - R_2$
Biphenyl cyclohexycarboxylate	$R_1 - \text{C}_6\text{H}_{11} - \text{COO} - \text{C}_6\text{H}_4 - \text{C}_6\text{H}_4 - R_2$
Thioester	$R_1 - \text{C}_6\text{H}_4 - \text{COS} - \text{C}_6\text{H}_4 - R_2$
(CCN)	$R_1 - \text{C}_6\text{H}_{11} - \text{C}_6\text{H}_{11} - \text{C}(=\text{N}) - R_2$
(BCN)	$R_1 - \text{C}_6\text{H}_{11} - \text{C}_6\text{H}_{11} - \text{C}(=\text{N}) - \text{C}_6\text{H}_{11} - R_2$

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In the above formulae,  $R_1$  and  $R_2$ , independently of one another, represent alkyl, alkoxy, fluoroalkyl, fluoroalkoxy, nitro, cyano or halogen.